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Albert E. Ortega

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SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
PO Box 142950
GAINESVILLE, FL 32614

EXAMINER

BUTLER, PATRICK NEAL

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/662,492	Applicant(s) ORTEGA, ALBERT E.	
	Examiner Patrick Butler	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11, 13-20, 22, 23, 25-28 and 35-40 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 22, 23 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10, 11, 13-20, 25, 26, 28 and 35-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20100617, 20100618</u> . | 6) <input type="checkbox"/> Other: _____ |

FDetailed ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Gillespie (U.S. Patent No. 5,783,503) as evidenced by Tortora (*Understanding Textiles*, pages 38, 39, and 401).

With respect to Claim 37-40, Gillespie teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret (extruding), attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 4; col. 3, lines 16-34 and col. 9, lines 18-26). Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25). Increases in moisture absorbency increase fiber conductivity, which is antistatic since it limits static buildup, and nylon's or polyester's presence would improve the absorbency of the blend since they have 0.4-4.5% standard moisture regain (see Tortora, *Understanding Textiles*, pages 38 and 39, Table 2.1, and page 401, second paragraph). Thus, nylon's or polyester's presence acts as antistatic agents to the polyester or olefins in the blends.

Gillespie would necessarily teach the claimed results of having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2

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kilovolt per inch as claimed in Claim 37, having a static level measured at about one half inch below the outlet of the slot attenuation device of -1 to 1 kilovolt per inch as claimed as claim in Claims 38 and 40, reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 kilovolt per inch as claimed as claim in 39 principally because Gillespie teaches each of the claimed process steps.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 13-15, 17-20, 25, 26, and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillespie (U.S. Patent No. 5,783,503) in view of Tortora (*Understanding Textiles*, pages 38, 39, 153-157, 330, 401, and 402).

With respect to Claims 1, 35, and 37, Gillespie teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret (extruding), attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 4; col. 3, lines 16-34 and col. 9, lines 18-26). Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25). Increases in moisture absorbency increase fiber conductivity, which is antistatic since it limits static buildup, and nylon's or polyester's presence would improve the

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absorbency of the blend since they have 0.4-4.5% standard moisture regain (see Tortora, *Understanding Textiles*, pages 38 and 39, Table 2.1, and page 401, second paragraph). Thus, nylon's or polyester's additional presence acts as antistatic agents to the polyester or olefins in the blends. Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively. Moreover, spunbonding is necessarily done by bonding the filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph), and Gillespie's nylon 6 and polypropylene (see col. 8, lines 45-53) are molten above 212 and 163 °C (see Tortora, *Understanding Textiles*, page 38 and 39, Table 2.1).

If not otherwise expressed by Gillespie in view of Tortora to bond the fibers thermally within the claimed range (e.g., between 180 and about 250 °C), in this regard, Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively, and Tortora teaches spunbonding done by bonding the filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph). As such, Gillespie in view of Tortora recognizes that the bonding temperature is a result-effective variable. Since bonding temperature is a result-effective variable, one of ordinary skill in the art would have obviously been motivated to determine the optimum bonding temperature applied in the process of Gillespie in view of Tortora through routine experimentation based

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upon allowing the nylon 6 to be sufficiently heated to bond, which would be at least its molten temperature of 212 °C.

If Gillespie's nylon and polyester do not meet the claimed limitation of "antistatic agent" (see col. 4, lines 66 - col. 5, line 25), then Gillespie does teach to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42).

Tortora teaches that bicomponent fibers contain metal or carbon, which are antistatic agents (see page 401, forth paragraph, through page 402, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Tortora's antistatic metal or carbon in the composition of fibers taught by Gillespie in order to produce fibers that decrease static buildup (see Tortora, page 401, paragraphs 2-4), in order to control electrical properties (see Gillespie col. 5, lines 35-42), and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Gillespie in view of Tortora would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 2 or less than -2 kilovolt per inch to having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kilovolt per inch as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 2 and 4, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, lines 66-col. 5, line 25).

With respect to Claim 3, Gillespie teaches using “nylon ... and copolymers thereof” (see col. 5, lines 5-8), which reads on the claim language “nylon copolymers,” which meets the limitations of the claim.

Moreover, with respect to Claim 3, Tortora teaches that nylon 6 has a higher tenacity than nylon 6,6 (see page 156, *Strength* section). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select nylon 6 as the nylon to use in Gillespie in order to have greater tenacity.

With respect to Claim 5, Gillespie would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 kilovolt per inch as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 13, 36, and 38, Gillespie would necessarily teach the claimed result of having a static level measured at about one half inch below the outlet of the slot attenuation device of -1 to 1 kilovolt per inch as claimed principally because Gillespie teaches each of the claimed process steps positively recited.

With respect to Claims 14 and 15, nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5%

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of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

With respect to Claim 17, Gillespie further teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret using blends in separate extruders to form filament with one of the blends forming a portion of the surface of the filaments, attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 3 and 4; col. 3, lines 16-34; col. 5, line 66 through col. 6, line 9; col. 8, lines 8-19; and col. 9, lines 18-26).

With respect to Claim 18, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, line 66 through col. 5, line 25).

With respect to Claim 19, Gillespie teaches using “nylon ... and copolymers thereof” (see col. 5, lines 5-8, which reads on the claim language “nylon copolymers,” which meets the limitations of the claim.

Moreover, with respect to Claim 19, Tortora teaches that nylon 6 has a higher tenacity than nylon 6,6 (see page 156, *Strength* section). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select nylon 6 as the nylon to use in Gillespie in order to have greater tenacity.

With respect to Claims 20 and 39, Gillespie would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the

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slot attenuation device from greater than 4 or less than -4 kilovolt per inch as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 25 and 40, Gillespie would necessarily teach the claimed result of having a static level measured at about one half inch below the outlet of the slot attenuation device of -1 to 1 kilovolt per inch as claimed principally because Gillespie teaches each of the claimed process steps positively recited.

With respect to Claim 26, Gillespie teaches that at least about 5 percent of the surface area of each filament is made of a nylon polymer (see Fig. 3; see col. 5, line 66 through col. 6, line 4). Nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5% of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

Claims 1-5, 10, 11, 13-20, 25, 26, 28, and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillespie (U.S. Patent No. 5,783,503) in view of Tortora (*Understanding Textiles*, pages 38, 39, 153-157, 330, 401, and 402).and in further view of either Warburton (US Patent No. 4,081,383) or George (US Patent No. 4,167,464).

With respect to Claims 1, 35, and 37, Gillespie teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating

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filaments from a spinneret (extruding), attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 4; col. 3, lines 16-34 and col. 9, lines 18-26). Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively. Moreover, spunbonding is necessarily done by bonding the filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph), and Gillespie's nylon 6 and polypropylene (see col. 8, lines 45-53) are molten above 212 and 163 °C (see Tortora, *Understanding Textiles*, page 38 and 39, Table 2.1).

If not otherwise expressed by Gillespie in view of Tortora to bond the fibers thermally within the claimed range (e.g., between 180 and about 250 °C), in this regard, Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively, and Tortora teaches spunbonding done by bonding the filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph). As such, Gillespie in view of Tortora recognizes that the bonding temperature is a result-effective variable. Since bonding temperature is a result-effective variable, one of ordinary skill in the art would have obviously been motivated to determine the optimum bonding temperature applied in the process of Gillespie in view of Tortora through routine experimentation based

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upon allowing the nylon 6 to be sufficiently heated to bond, which would be at least its molten temperature of 212 °C.

If Gillespie's nylon (polycaprolactum) and polyester do not meet the claimed limitation of "antistatic agent" (see col. 4, lines 66 - col. 5, line 25), then Gillespie does teach to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42).

Warburton teaches using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see col. 4, line 60 through col. 5, line 6) and vinyl sulfonic acid (see col. 3, line 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Warburton's copolymer composition in the extrusion of Gillespie in order to provide the product with better anti-soiling treatment, to control the anti-soiling treatment's polymer particle size (see Abstract and col. 4, lines 60 and 61), and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25)..

Alternative to Warburton, George teaches using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) or octadecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see col. 4, line 65 through col. 5, line 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use George's copolymer composition in the extrusion of Gillespie in order to provide the product with better degree of absorption of water and body fluids

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(see George, Abstract; col. 1, lines 46-49; and col. 6, lines 42-59) and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Since Applicant's claim language (see Claim 16) shows that a blend containing polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts is an antistatic agent, Warburton's and George's teaching of the agent (as cited above) necessarily meets the claimed limitation of "antistatic agent." Moreover, Warburton recognizes the benefit of the polymer in reducing static build-up (see col. 6, lines 34-37).

Applicant's specification indicates that a composition of a polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts added to a two polymer delivery results in 0.6 Kilovolts/inch when added at 1% concentration (see Specification, page 10, table 1).

As Warburton's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.5-8% (see col. 5, lines 47-49), the 1% concentration is taught. As George's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.01-5% (see col. 5, lines 47-49), the 1% concentration is taught. Therefore, Warburton's or George's agent would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 2 or less than -2 kilovolt per inch to having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kilovolt per inch as claimed principally because it

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teaches the same process and composition as Applicant, which arrived at said static level.

With respect to Claims 2 and 4, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, lines 66-col. 5, line 25).

With respect to Claim 3, Gillespie teaches using “nylon ... and copolymers thereof” (see col. 5, lines 5-8), which reads on the claim language “nylon copolymers,” which meets the limitations of the claim.

With respect to Claim 5, Gillespie would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 kilovolt per inch as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 10, 11, 16, and 28, Claim 16's and Claim 28's antistatic agent of polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts is taught by Gillespie in view of Warburton or George as cited above with respect to Claim 1. Such antistatic agent was indicated to read on Claims 10 and 11 (see Office Action mailed 22 March 2006, page 3, third paragraph and Applicant's Arguments received 22 December 2006, page numbered 9 by Applicant, first paragraph).

With respect to Claims 13, 25, 38, and 40, Applicant's specification teaches that a composition of a polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts added to a two polymer delivery results in 0.6 Kilovolts/inch when added at 1% concentration (see Specification, page 10, table 1).

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As Warburton's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.5-8% (see col. 5, lines 47-49), the 1% concentration is taught. As George's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.01-5% (see col. 5, lines 47-49), the 1% concentration is taught. Therefore, Warburton's or George's agent would have cause static level measured at about one half inch below the outlet of the slot attenuation device of -1 to 1 kilovolt per inch as claimed because Warburton or George teach the same process and composition as Applicant, which arrived at said static level.

With respect to Claims 14 and 15, nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5% of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

With respect to Claim 17, Gillespie further teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret using blends in separate extruders to form filament with one of the blends forming a portion of the surface of the filaments, attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a

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collection surface to form a web (see Fig. 3 and 4; col. 3, lines 16-34; col. 5, line 66 through col. 6, line 9; col. 8, lines 8-19; and col. 9, lines 18-26).

With respect to Claim 18, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, lines 66-col. 5, line 25).

With respect to Claim 19, Gillespie teaches using “nylon ... and copolymers thereof” (see col. 5, lines 5-8, which reads on the claim language “nylon copolymers,” which meets the limitations of the claim.

With respect to Claims 20, 36, and 39, Applicant’s specification teaches that a composition of a polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts added to a two polymer delivery results in 0.6 Kilovolts/inch when added at 1% concentration (see Specification, page 10, table 1).

As Warburton’s composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.5-8% (see col. 5, lines 47-49), the 1% concentration is taught. As George’s composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.01-5% (see col. 5, lines 47-49), the 1% concentration is taught. Therefore, Warburton’s or George’s agent would reduce the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 kilovolt per inch as claimed because Warburton or George teach the same process and composition as Applicant, which arrived at said static level.

With respect to Claim 26, Gillespie teaches that at least about 5 percent of the surface area of each filament is made of a nylon polymer (see Fig. 3; see col. 5, line 66 through col. 6, line 4). Nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5% of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

Response to Arguments

Applicant's arguments filed 17 June 2010 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC 103(a) rejections. Applicant's arguments appear to be on the grounds that:

1) A large amount of carbon black is required to see an appreciable anti-static effect. With such an amount, the carbon black would severely plug filters and packs, with would discourage its use.

2) Claims 1 and 17 require bonding at 180-250 °C, which is not disclosed by Gillespie.

3) Gillespie teaches away from additives that would lower the static level since it would inhibit separation of the filaments.

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4) Warburton's applies material directly to carpets or carpet yarns rather than the melt blend.

5) George teaches materials limited to use below 50 °C, which is below the processing of Gillespie's material.

The Applicant's arguments are addressed as follows:

1) As recited on Page 17 of the Office Action mailed 26 February 2009:

- Blending carbon is feasible principally because Tortora's teaching does provide for forming bi-component fibers (see page 401, forth paragraph, through page 402, line 2).
- In response to the indication that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., carpet yarn formation and 25% carbon black) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).
- Moreover, it is noted that Tortora's teaching of bicomponent fibers containing metal, which is an antistatic agent (see page 401, forth paragraph, through page 402, line 2) is not disputed.

2) As recited above, Gillespie and Tortora teach bonding at 180-250 °C:

Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting,

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respectively. Moreover, spunbonding is necessarily done by bonding the filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph), and Gillespie's nylon 6 and polypropylene (see col. 8, lines 45-53) are molten above 212 and 163 °C (see Tortora, *Understanding Textiles*, page 38 and 39, Table 2.1).

If not otherwise expressed by Gillespie in view of Tortora to bond the fibers thermally within the claimed range (e.g., between 180 and about 250 °C), in this regard, Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively, and Tortora teaches spunbonding done by bonding the filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph). As such, Gillespie in view of Tortora recognizes that the bonding temperature is a result-effective variable. Since bonding temperature is a result-effective variable, one of ordinary skill in the art would have obviously been motivated to determine the optimum bonding temperature applied in the process of Gillespie in view of Tortora through routine experimentation based upon allowing the nylon 6 to be sufficiently heated to bond, which would be at least its molten temperature of 212 °C.

3) As recited above, Gillespie uses components that limit the static level:

Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25). Increases in moisture absorbency

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increase fiber conductivity, which is antistatic since it limits static buildup, and nylon's or polyester's presence would improve the absorbency of the blend since they have 0.4-4.5% standard moisture regain (see Tortora, *Understanding Textiles*, pages 38 and 39, Table 2.1, and page 401, second paragraph). Thus, nylon's or polyester's presence acts as antistatic agents to the polyester or olefins in the blends.

3) As recited on Page 15 of the Office Action mailed 28 December 2007:

Since the motivation to combine the references is to produce fibers that decrease static buildup (see Tortora, page 401, paragraphs 2-4) and in order to control electrical properties (see Gillespie col. 5, lines 35-42), any loss of static charge in processing would be to optimize the final product's static build-up as well has help with control of the filaments during lay-down by helping control their electrical properties.

Moreover, it is not clear that the contribution of antistatic properties of Tortora in the final product would significantly affect the process of Gillespie.

4) Gillespie and Tortora teach the limitation of adding the anti-static agent to the melt blend as recited above:

Tortora teaches that bicomponent fibers contain metal or carbon, which are antistatic agents (see page 401, forth paragraph, through page 402, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Tortora's antistatic metal or carbon in the composition of fibers taught by Gillespie in order to produce fibers that decrease static buildup

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(see Tortora, page 401, paragraphs 2-4), in order to control electrical properties (see Gillespie col. 5, lines 35-42), and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

5) As recited on page 18 of the Office Action mailed 26 February 2009, the blend would display blended properties and be processed at a temperature within their individual points rather than retaining set points of melting etc.:

Moreover, Gillespie teaches that a blend of the polymers' melt temperatures is used (see col. 8, lines 45-53), which would obviate processing at temperatures of 50 and 160 °C.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.-Thu. 7:30 a.m.-5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/P. B./
Examiner, Art Unit 1791

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791